

AMENDMENTS TO THE CLAIMS

The claims are provided below for the convenience of the Examiner. The claims are not amended.

1. (Previously Presented) A method for reporting address information in a distributed communication system having a plurality of distributed address databases, wherein each address database includes a number of locally owned address entries containing locally owned address information and a number of remotely owned address entries containing remotely owned address information, the method comprising:

retrieving a list of locally owned address information from each of the distributed address databases;

sorting the retrieved address information according to a predetermined sorting scheme;
and

reporting the sorted address information.

2. (Previously Presented) The method of claim 1, wherein:
each address database is maintained by one of a plurality of interconnected modules within the communication system, where each module includes a number of interfaces;

each locally owned address entry includes a locally owned address and an interface identifier identifying an interface from which the locally owned address is learned; and

each remotely owned address entry includes a remotely owned address and a module

- identifier identifying a module from which the remotely owned address is learned.

3. (Previously Presented) The method of claim 2, wherein:

retrieving a list of locally owned address information from each of the distributed address databases comprises:

determining a reporting module from among the plurality of interconnected modules, the plurality of interconnected modules comprising the reporting module and one or more other interconnected modules;

retrieving a first list of locally owned address information by the reporting module from the address database maintained by the reporting module; and

retrieving a second list of locally owned address information by the reporting module from each of the other interconnected modules;

sorting the retrieved address information comprises sorting the address information by the reporting module according to the predetermined sorting scheme; and

reporting the sorted address information comprises reporting the sorted address information by the reporting module.

4. (Previously Presented) The method of claim 3, wherein retrieving the first list of locally owned address information by the reporting module from its address database comprises retrieving a predetermined number of locally owned address entries from the address database.

5. (Previously Presented) The method of claim 4, wherein the locally owned address entries are maintained in lexicographical order by address, and wherein retrieving the first list of locally owned address information by the reporting module from its address database comprises retrieving the predetermined number of locally owned address entries beginning with a first locally owned address entry that is lexicographically greater than a predetermined starting address.

6. (Previously Presented) The method of claim 3, wherein retrieving the second list of locally owned address information by the reporting module from each of the other interconnected modules comprises:

causing a request message to be sent to each of the other interconnected modules requesting the second list of locally owned address information from each of the other interconnected modules;

retrieving the second list of locally owned address information by each of the other interconnected modules from its respective address database;

formatting a response message by each of the other interconnected modules including the second list of locally owned address information; and

sending the response message by each of the other interconnected modules to the reporting module.

7. (Previously Presented) The method of claim 6, wherein retrieving the second list of locally owned address information by each of the other interconnected modules from its respective address database comprises retrieving a predetermined number of locally owned address entries from the address database.

8. (Previously Presented) The method of claim 7, wherein the request message includes a predetermined starting address, and wherein retrieving the second list of locally owned address information by each of the other interconnected modules from its respective address database comprises retrieving the predetermined number of locally owned address entries beginning with a first locally owned address entry that is lexicographically greater than the predetermined starting address.

9. (Original) The method of claim 2, wherein the address information comprises a number of address-to-port-number mappings, where each address-to-port-number mapping includes a locally owned address and a corresponding interface identifier.

10. (Original) The method of claim 9, wherein sorting the address information comprises sorting the address-to-port-number mappings into lexicographical order according to the locally owned address.

11. (Original) The method of claim 1, wherein the predetermined sorting scheme is a parallel sorting scheme.

12. (Previously Presented) The method of claim 11, wherein sorting the address information comprises:

maintaining an index/pointer for each list of locally-owned address information retrieved from each of the distributed address databases;

setting the index/pointer for each list of locally-owned address information to indicate a lexicographically lowest address entry in the list; an

outputting address entries in lexicographical order by iteratively determining an index/pointer indicating the lexicographically lowest address entry, outputting the address entry indicated by the index/pointer, and setting the index/pointer to indicate a lexicographically next address entry in the list.

13. (Original) The method of claim 1, further comprising:
caching the retrieved address information in a cache memory; and
using the cached address information to report the address information.

14. (Previously Presented) A module for reporting address information in a communication system including the module and one or more other interconnected modules, the module comprising:

an address database;

address maintenance logic operably coupled to maintain a number of locally owned address entries containing locally owned address information and a number of remotely owned address entries containing remotely owned address information in the address database;

local retrieval logic operably coupled to retrieve a first list of locally owned address information from the address database;

remote retrieval logic operably coupled to retrieve a second list of locally owned address information from each of the other interconnected modules;

sorting logic responsive to the local retrieval logic and the remote retrieval logic and operably coupled to sort the retrieved address information according to a predetermined sorting scheme; and

reporting logic operably coupled to report the sorted address information.

15. (Original) The module of claim 14, wherein the local retrieval logic is operably coupled to retrieve a predetermined number of locally owned address entries from the address database.

16. (Original) The module of claim 15, wherein the address maintenance logic maintains the locally owned address entries in lexicographical order by address, and wherein the local retrieval logic is operably coupled to retrieve the predetermined number of locally owned address entries beginning with a first locally owned address entry that is lexicographically greater than a predetermined starting address.

17. (Previously Presented) The module of claim 14, wherein the remote retrieval logic comprises:

transmitting logic operably coupled to cause a request message to be sent to each of the interconnected modules requesting the second list of locally owned address information from each of the other interconnected modules; and

receiving logic operably coupled to receive from each of the interconnected modules a response message including the second list of locally owned address information from the interconnected module.

18. (Original) The module of claim 14, wherein the address information comprises a number of address-to-port-number mappings, where each address-to-port-number mapping includes a locally owned address and a corresponding interface identifier.

19. (Original) The module of claim 18, wherein the sorting logic is operably coupled to sort the address-to-port-number mappings into lexicographical order by address.

20. (Previously Presented) The module of claim 19, wherein the sorting logic is operably coupled to maintain an index/pointer for each retrieved list of locally-owned address information, set the index/pointer for each list of locally-owned address information to indicate a lexicographically lowest address entry in the list, and output address entries in lexicographical order by iteratively determining the index/pointer indicating the lexicographically lowest address entry, outputting the address entry indicated by the index/pointer, and setting the index/pointer to indicate the lexicographically next address entry in the list.

21. (Original) The module of claim 14, further comprising caching logic operably coupled to store the retrieved address information in a cache memory.

22. (Previously Presented) A program product comprising a computer readable medium having embodied therein a computer program for reporting address information in a communication system having a plurality of interconnected modules, the computer program comprising:

address maintenance logic programmed to maintain a number of locally owned address entries containing locally owned address information and a number of remotely owned address entries containing remotely owned address information in an address database;

local retrieval logic programmed to retrieve a first list of locally owned address information from the address database;

remote retrieval logic programmed to retrieve at least one second list of locally owned address information from at least one of the interconnected modules;

sorting logic responsive to the local retrieval logic and the remote retrieval logic and programmed to sort the retrieved address information according to a predetermined sorting scheme; and

reporting logic programmed to report the sorted address information.

23. (Original) The program product of claim 22, wherein the local retrieval logic is programmed to retrieve a predetermined number of locally owned address entries from the address database.

24. (Original) The program product of claim 23, wherein the address maintenance logic maintains the locally owned address entries in lexicographical order by address, and wherein the local retrieval logic is programmed to retrieve the predetermined number of locally owned address entries beginning with a first locally owned address entry that is lexicographically greater than a predetermined starting address.

25. (Previously Presented) The program product of claim 22, wherein the remote retrieval logic comprises:

transmitting logic programmed to cause a request message to be sent to each of the interconnected modules requesting the second list of locally owned address information from each of the other interconnected modules; and

receiving logic programmed to receive from each of the interconnected modules a response message including the second list of locally owned address information from the interconnected module.

26. (Original) The program product of claim 22, wherein the address information comprises a number of address-to-port-number mappings, where each address-to-port-number mapping includes a locally owned address and a corresponding interface identifier.

27. (Original) The program product of claim 26, wherein the sorting logic is programmed to sort the address-to-port-number mappings into lexicographical order by address.

28. (Previously Presented) The program product of claim 22, wherein the sorting logic is programmed to maintain an index/pointer for each retrieved list of locally-owned address information, set the index/pointer for each list of locally-owned address information to indicate a lexicographically lowest address entry in the list, and output address entries in lexicographical order by iteratively determining the index/pointer indicating the

lexicographically lowest address entry, outputting the address entry indicated by the index/pointer, and setting the index/pointer to indicate the lexicographically next address entry in the list.

29. (Original) The program product of claim 22, wherein the computer program further comprises caching logic programmed to store the retrieved address information in a cache memory.

30. (Previously Presented) A module for reporting address information in a communication system having a plurality of interconnected modules, the module comprising:

an address database;

address maintenance logic operably coupled to maintain a number of locally owned address entries containing locally owned address information and a number of remotely owned address entries containing remotely owned address information in the address database;

receiving logic operably coupled to receive a request message from a reporting module requesting the locally owned address information;

address retrieval logic responsive to the receiving logic and operably coupled to retrieve the locally owned address information from the address database;

response formatting logic responsive to the address retrieval logic and operably coupled to format a response message including the locally owned address information; and

transmitting logic responsive to the response formatting logic and operably coupled to send the response message to the reporting module.

31. (Original) The module of claim 30, wherein the address retrieval logic is operably coupled to retrieve a predetermined number of locally owned address entries from the address database.

32. (Original) The module of claim 31, wherein:
the request message includes a predetermined starting address;
the locally owned address entries are maintained in lexicographical order by address; and
the address retrieval logic is operably coupled to retrieve the predetermined number of locally owned address entries beginning with a first locally owned address entry that is lexicographically greater than a predetermined starting address.

33. (Previously Presented) A program product comprising a computer readable medium having embodied therein a computer program for reporting address information in a communication system having a plurality of interconnected modules, the computer program comprising:

address maintenance logic operably coupled to maintain a number of locally owned address entries containing locally owned address information and a number of remotely owned address entries containing remotely owned address information in an address database;

receiving logic programmed to receive a request message from a reporting module requesting the locally owned address information;

address retrieval logic responsive to the receiving logic and programmed to retrieve the locally owned address information from the address database;

response formatting logic responsive to the address retrieval logic and programmed to format a response message including the locally owned address information; and

transmitting logic responsive to the response formatting logic and programmed to send the response message to the reporting module.

34. (Original) The program product of claim 33, wherein the address retrieval logic is programmed to retrieve a predetermined number of locally owned address entries from the address database.

35. (Original) The program product of claim 34, wherein:
the request message includes a predetermined starting address;
the locally owned address entries are maintained in lexicographical order by address; and
the address retrieval logic is programmed to retrieve the predetermined number of locally owned address entries beginning with a first locally owned address entry that is lexicographically greater than a predetermined starting address.

36. (Previously Presented) A communication system comprising a reporting module in communication with a number of other interconnected modules, wherein each of the modules maintains an address database including a number of locally owned address entries containing locally owned address information and a number of remotely owned address entries containing remotely owned address information, and wherein the reporting module reports address information by retrieving the locally owned address information from its address database, retrieves the locally owned address information from each of the other interconnected modules, sorts the address information according to a predetermined sorting scheme, and reports the sorted address information.